

The Call direct procedure for calling between voice phone users and video relay service users.

This is a description of an open procedure in line with modern telecom development and the requirements of video relay service (VRS) users. It makes it possible to use any SIP or H.323 videophone for relay calls. It also makes it possible to distribute the responsibility for number assignment and directory storage among a number of market actors handling such matters for the general public. These are important features to make VRS calling part of a telecom system with equal opportunities for all.

Another important feature of this method is that it makes it possible to call also 3G videophones through VRS. 3G videophones have become popular as sign language phones and need to be included in the VRS numbering plans.

The method was first described by Omnitor in the report to the Swedish Telecom Agency PTS in January 2006, called "Convenient invocation of Relay Services - A pre-study conducted by Omnitor, commissioned by the PTS - PTS-ER-2006:5".

(<http://www.pts.se/en-gb/Documents/Reports/Disabled/2006/Convenient-invocation-of-Relay-Services---A-pre-study-conducted-by-Omnitor-commissioned-by-the-PTS---PTS-ER-20065/>)

There is no known IPR in the method, and by the official publishing of the method in the report it was intended to keep it IPR free to the benefit of all.

A trial of a VRS number calling has been successfully performed in Sweden since early 2007, partly using the methods from the pre-study. It is proposed that USA follow the same general principles.

Assign two numbers per user:

Let the SIP or H.323 service operator set up numbers in the phone number plan:

1. One voice-number that takes the call through the relay.
2. One video-number that takes the call straight to the user.

Enum is a commonly accepted method for translation of phone numbers to addresses in the IP domain.

Let the SIP or H.323 service operator where the SIP or H.323 user has its address registered set up enum records (or other routing mechanisms) for the numbers for translation of:

1. voice-number to video-number@favourite-relay-domain
2. video-number to terminal-sip-address or terminal-h.323-address

In the case when the user has no current SIP or H.323 operator, this task can be fulfilled by any VoIP operator or other organisations with the right to register enum records. This is a small extension over current obligations of VoIP operators when they assign numbers to VoIP customers.

Relayed voice calls

Calls to the voice number gets translated by enum and sent to the relay in the form video-number@favourite-relay-domain .

The relay prepares for the call and calls out with the video-number.

The video-number gets converted by enum to the terminal-sip-address or terminal-h.323-address and the call can reach the terminal.

For cases when the terminal is part of a closed network, the provider needs to open for interoperable SIP or H.323 calls through a gateway. This mechanism can also be used for reaching 3G videophones used for VRS.

Video to video calls

When a video user want to call another video user they can use the video-number.

An enum-lookup is done to the terminal-address and the call is made to the terminal-address.

A need to call through a gateway between SIP and H.323 can be automatically detected and resolved.

Calling with video-number@domain

Calling with video-number@domain for calling directly videophone to videophone is a good simple base method.

And from that stage it can be even more simplified to plain number calling in two ways:

1. There is usually a default dial domain configured in the terminal that is automatically attached by the terminal before sending the call.
2. The service can make a number analysis on the number part and do an enum lookup if it is a number that is not within its own area, and get the proper address for it.

Video to voice calls through relay

When a video user want to call a voice user through the relay, the call should go to voice-phone-number@favourite-relay-domain . This can be simplified to just calling a voice-phone-number in different ways. Terminals usually have dial-domains configured that are used when no domain is dialled by the user. Setting the dial-domain to the favourite-relay-domain will send all calls with number-only to the relay.

Supplementary service handling

Supplementary services as call transfer and call redirection can be used on the voice-number enabling equality call handling between voice phone users and VRS users.

Number management

The VoIP operators who set up the numbers and arranges the enum records shall also establish a simple way of requesting and modifying changes in the favourite-relay for the voice number. This should be a normal part of the commonly offered "my pages" for the number offered by the operator.

Regulation or society support needs

The part that needs regulation or other support from society is to set up the voice-number and its enum record. Since it links to the video-number of the user, that is a number in the number plan, it can be handled by VoIP operators or any organisation with the right to handle enum records. There is no need to have it to be one central registry for the whole country. It could be arranged as a service supported by society funding in a similar way as VRS calling is.

Regards
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